Loleta Median Barrier

State Route 101 in Humboldt County, Between Rohnerville
and Fields Landing
01-Hum-101
PM 58.80/69.95
EA 01-438400

Initial Study with Proposed Negative Declaration

Prepared by the
State of California Department of Transportation

June 2005

Caltrans

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of the proposed project located in Humboldt County, California. The document describes why the project is being proposed, the existing environment that could be affected by the project, potential impacts from the project, and the proposed avoidance, minimization and/or mitigation measures.

What should you do?

- Please read this Initial Study. Additional copies of this document are available for review at the Humboldt County Library, 1313 3rd Street in Eureka, and the Fortuna Library at 753 14th Street. The document and associated technical studies are also available for review at the Caltrans District 1 Office, 1656 Union Street, Eureka, CA. The document is also available at the following websites: http://www.dot.ca.gov/dist1/d1projects/envdocs.htm or http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm.
- We welcome your comments. If you have any concerns regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  Jean L. Baker, Chief
  Environmental Management, M-2 Branch
  California Department of Transportation
  PO Box 911
  Marysville, CA 95901

  Submit comments via email to: jeannie_baker@dot.ca.gov
- Submit comments by the deadline: August 15, 2005

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Jean L. Baker, Environmental M-2 Branch, PO Box 911, Marysville, CA 95901; (530) 741-4498 Voice, or use the California Relay Service TTY number, 1-800-735-2929.

SCH# ___*pending*____
01-Hum-101-58.80 / 69.95
EA 01-438400

Install Median Barrier on State Route 101 in Humboldt County, California
From Drake Hill Road (PM 58.80) to the
Fields Landing Overhead (PM 69.95)

INITIAL STUDY
with Proposed Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

_____
Date of Approval

_____
John D. Webb, Chief
North Region Environmental Services
California Department of Transportation

Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to improve traffic safety by installing a median barrier in two locations on State Route 101 between Drake Hill Road and the Fields Landing Overhead. Additional improvements include installing a raised, paved median and overlaying the roadway with Open Grade Asphalt Concrete (OGAC).

Determination

This proposed Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Negative Declaration for this project. This does not mean that the Caltrans' decision regarding the project is final. This Negative Declaration is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have no effect on air quality, cultural resources, land use, noise levels, population and housing, recreation, public services, transportation, traffic patterns and utilities.
- Wetland impacts will be mitigated at a 1:1 ratio by purchasing credits at a mitigation bank approved by the California Department of Fish and Game.
- Soil contaminated with aerially deposited lead will be disposed of in the appropriate hazardous waste facility and a Lead Compliance Plan will be implemented.
- Potential impacts to wildlife crossing will be mitigated by using double thrie beam barrier in the areas potentially most used by wildlife and putting openings in the concrete median barrier that smaller animals can pass through.
- Potential impacts to the floodplain will be minimized by using double thrie beam barrier in floodplain areas.

_____ _____

John D. Webb, Chief Date
North Region Environmental Services
California Department of Transportation

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List of Abbreviated Terms

ac	Acre
AC	Asphalt concrete
ACOE	U.S. Army Corps of Engineers
ADL	Aerially Deposited Lead
APE	Area of Potential Effects (cultural resources)
BMP	Best management practices (water quality)
Caltrans	California Department of Transportation
CDFG	California Department of Fish & Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon monoxide (air quality)
CZMA	Coastal Zone Management Act
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ETW	Edge of traveled way
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
ft	foot/feet
ha	hectare
HP	Hinge point
HPSR	Historic property survey report
IS	Initial Study
km	kilometer(s)
KP	kilometer post
m	meter(s)
MBTA	Migratory Bird Treaty Act
mi	mile(s)
NEPA	National Environmental Policy Act
NES	Natural Environment Study (biological resources)
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
OGAC	Open Grade Asphalt Concrete
PG&E	Pacific Gas & Electric
PM	post mile
ppm	Parts per million
PRC	Public Resources Code
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SR	State Route
USC	United States Code
USFWS	U.S. Fish & Wildlife Service

Chapter 1 Proposed Project

1.1 Introduction

The north end of this project is about six miles south of Eureka on State Route 101, which is the primary north-south transportation corridor in Humboldt County. The existing facility was built in the late 1950s and early 1960s. Caltrans is currently in the process of upgrading SR 101 to increase safety for the traveling public. Recent work included installation of concrete median barrier in 1994 between Fields Landing and King Salmon Avenue. Concrete median barrier was also installed in 2002 near the town of Fortuna from postmile (PM) 60.50 to 63.10. That segment separates the two sections of this proposed project.

State Route 101 in the project area currently is divided by a 22-ft wide unpaved median with no barrier structure. This project proposes to install median barrier at two separate locations from PM 58.80 to 69.95. (See Figure 1-1 for Project Location Map)

Location 1 (PM 58.80 to 60.50) – near the city of Fortuna from just north of Drake Hill Road to the 12th Street Overcrossing.

Location 2 (PM 63.10 to 69.95) – from the Finch Creek Road undercrossing to just south of the Fields Landing Overhead.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of this project is to reduce the number and severity of cross-median collisions within the project limits.

1.2.2 Need

The project area suffers from a higher than average rate of cross-median vehicle collisions. There were 19 crossover type collisions from January 1, 1999 to January 1, 2004, resulting in two fatal collisions and ten injury collisions. The median barrier is recommended by Caltrans' Headquarters Office of Traffic Safety and District 1 Traffic Safety Office to reduce these collisions.

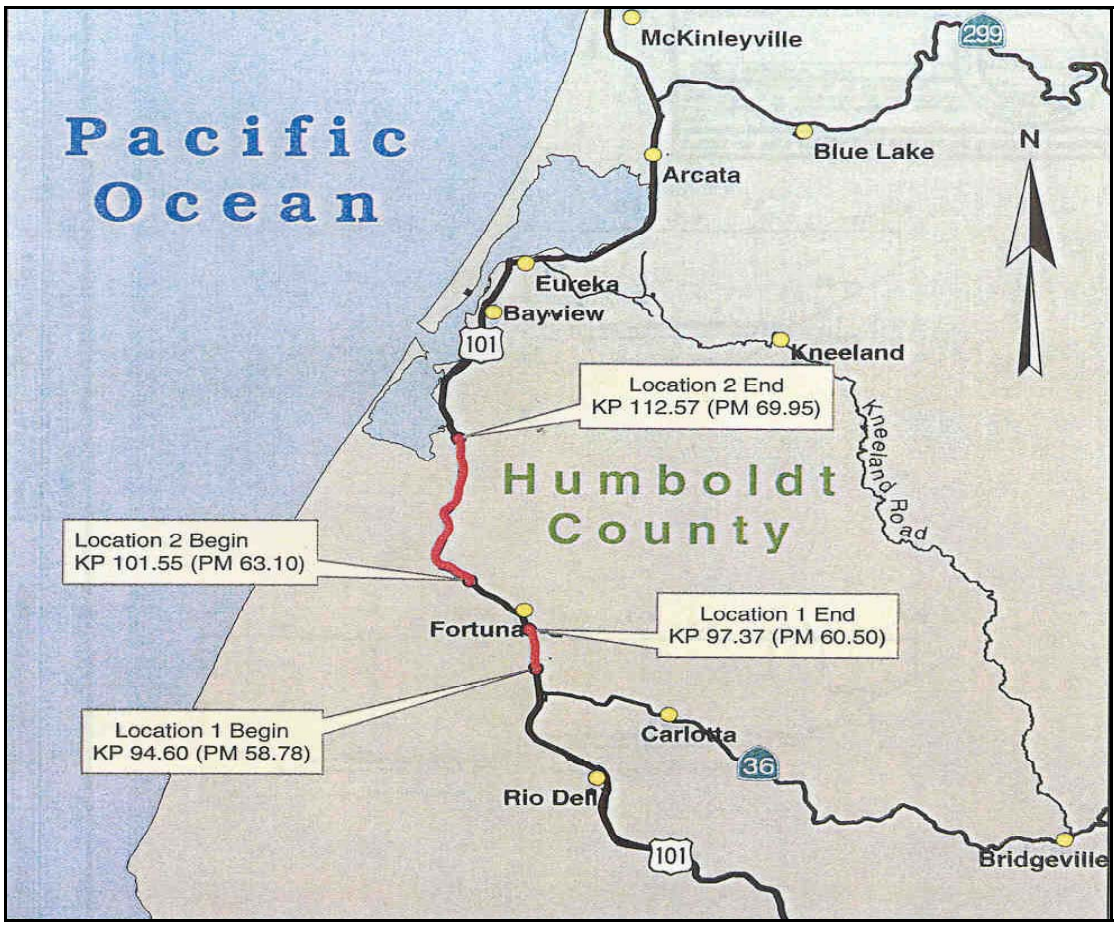

Figure 1-1 Project Location Map

1.3 Alternatives

1.3.1 Build Alternative

The preferred alternative is to install a median barrier on a crowned median and overlay the adjacent roadway with Open Grade Asphalt Concrete (OGAC), a more porous type of pavement, which will reduce water flowing over the road during heavy storms. The project proposes to install Type 60 concrete median barrier throughout most of the project. At ten designated locations, double thrie beam barrier, which is similar to metal beam guardrail, will be installed to minimize impacts to the floodplain and make it easier for animals to cross the highway. Double thrie beam barrier will also replace a short section of existing concrete barrier from PM 61.10 to 61.25 that was installed with a previous project. (See Table 1-1 for list of proposed thrie beam locations)

Other work includes installing a rumble strip in the inside and outside shoulders; placing shoulder backing; modifying drainage systems; replacing existing asphalt concrete (AC) dike; placing weed mat or non-structural AC in a 1.5-ft strip under the thrie beam; and re-striping the pavement delineation. Construction is estimated to begin during 2006.

1.3.2 No-Build Alternative

The no-build alternative is not recommended since it would not satisfy the project's purpose and need.

1.3.3 Alternatives Considered and Withdrawn

Place median barrier in an unpaved median – This alternative would be similar to the build alternative, but would not have a paved median. This alternative would have less wetland impacts, but was rejected because bringing equipment and maintenance workers into the median to maintain it, compromises their safety as well as the safety of the traveling public.

Depressed median – An alternative similar to the build alternative, but using a depressed paved median which would have less of an impact on the viewshed, was rejected because of drainage, maintenance, and traffic safety issues.

All thrie beam median barrier – An alternative to install only double thrie beam barrier throughout the entire length of the project was rejected because Traffic Safety and Maintenance have required that thrie beam median barrier locations only be considered in straight sections to reduce maintenance workers exposure to traffic while repairing damaged barrier sections.

All concrete median barrier – An alternative to install only Type-60 concrete median barrier the entire length of the project was rejected because double thrie beam barrier is preferred at several locations to minimize impacts to the floodplain and make it easier for large animals to cross the highway.

Table 1-1 List of Thrie Beam Locations

Location #	Begin PM	End PM	Length (ft)
1	59.60	60.10	1380
2*	61.10	61.25	790
3	63.29	63.38	490
4	63.62	63.68	330
5	63.88	63.97	490
6	65.22	65.76	2890
7	66.27	66.31	200
8	67.04	67.13	490
9	67.49	67.83	1770
10	67.93	69.94	10600

*This location is part of an existing concrete median barrier that has already been installed. The existing concrete will be removed and replaced with thrie beam.

1.4 Permits and Approvals Needed

The proposed project would require the following permits and approvals:

Agency	**Permit / Approval**
U.S. Army Corps of Engineers	Section 404 Nationwide Permit for filling or dredging waters of the U.S.
Regional Water Quality Control Board	Section 401 Water Quality Certification
California Coastal Commission	Coastal Development Permit

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

This chapter explains the impacts that the project would have on the human, physical and biological environments in the project area. As part of the scoping and environmental analysis conducted for the project, the following environmental resources were considered, but no potential for adverse impacts to these resources was identified. Consequently, there is no further discussion regarding these resources in this document:

- Land Use—No impact.
- Growth— No impact
- Farmlands/Timberlands— No impact.
- Community Impacts— No impact
- Traffic and Transportation/Pedestrian and Bicycle Facilities— No impact
- Geology/Soils/Seismic/Topography— No impact
- Paleontology— No impact
- Air Quality— No impact. This project is not capacity increasing. Dust control measures will be implemented during construction.
- Noise and Vibration— No impact
- Invasive Species— No impact

2.1 Human Environment

Coastal Zone

Regulatory Setting

The Coastal Zone Management Act of 1972 (CZMA) is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA; they include the protection and expansion of public access and recreation, the protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, the protection of scenic beauty, and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own local coastal programs (LCPs). LCPs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

Affected Environment

The northern portion of the project in the Beatrice Flats area is under the jurisdiction of the California Coastal Commission. The remainder of the project is under the jurisdiction of Humboldt County's LCP.

Impacts

The Coastal Act has several policies that pertain to this project, which are listed below. The measures that Caltrans is taking to mitigate for these impacts are discussed in the following section.

30233 Wetlands – (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (5) Incidental public service purposes,…

30240 Habitat – (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

30251 Scenic and visual qualities – The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance…..

30253 Floodplain – New development shall: (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

30254 Public works facilities – New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division.

Avoidance, Minimization and/or Mitigation Measures

30233 Wetlands – There will be impacts to a 0.82-acre wetland area in the median of the highway. These impacts cannot be avoided due to the need to pave the entire median strip for safety reasons and to fulfill the project's purpose and need. The loss of this wetland will be mitigated by purchasing 0.82 acres from the Elk River Mitigation Bank. This mitigation has been approved by the Army Corps of Engineers and the CA Department of Fish and Game.

30240 Habitat – Wildlife corridors associated with riparian areas were identified and thrie beam is being used in those locations to aid wildlife crossing.

30251 Scenic and visual qualities – A depressed median is being used near the Fernbridge Bridge to increase the viewshed from PM 63.3 to PM 64.0, as recommended by the Landscape Architect. The thrie beam barrier will be lightly sandblasted to soften the visual impact by removing the initial shine.

30253 Floodplain – Double thrie beam barrier will be installed instead of solid concrete barrier near Strongs Creek and from Salmon Creek to the north end of the project to minimize encroachment of the floodplain. The eleven-inch opening at the base of double thrie beam is considered sufficient to pass floodwaters.

30254 Public works facilities – This project accommodates the current and future traffic volume in the area. The barrier locations and lengths for this project were determined on the basis of the collision warrant being met, the traffic volume/median width warrant being satisfied, and barrier gaps between identified locations. Location 2 meets cross-median collision warrants and both locations will meet traffic volume/median width warrants in 2008. The total collision rate is approximately 1.5 times higher than the statewide average. The Office of Traffic Safety concluded that construction of a median barrier would eliminate the high-severity, crossover collisions.

2.1.1 Utilities

Gas, electric, and communication lines cross the highway. All the electric lines are overhead. There are underground gas lines at two locations, and underground SBC fiber optic lines at three locations. These utilities will not be affected and no relocation is required.

2.1.2 Visual/Aesthetics

Affected Environment

The proposed project area is in the Eel River Valley and characterized by grasslands, wetlands, urban landscaping and landscaped freeway. The surrounding uplands are vegetated with grasslands and woodlands on exposed south facing slopes and redwood forests on surrounding slopes within the fog zone. Location 1 is located within the Eel River floodplain and Location 2 travels through Loleta Grade in the southern half and through Beatrice Flats in the northern half.

Views from Location 1 are mostly urban as the highway passes through the towns of Rohnerville and Fortuna. Residential and commercial land uses are visible from the roadway although existing mature vegetation restricts views of the middleground and background throughout the project area.

Views from Location 2 are mostly rural and rural residential. Views of the middle and background are prominent along this section of the highway corridor. The Eel River Valley, Humboldt Bay and the Lost Coast are visible in the distance towards the south and the Coast Range is visible in the middleground to the north. The College of the Redwoods is visible near the northern end of Location 2. Portions of the highway within this section are classified as landscaped freeway. Vegetation and topography block views of the middleground and background.

Impacts

There will be some visual impacts created by the placement of median barrier since views of the foreground and middleground may be reduced by the proposed structures. Highway 101 will visually appear more like an urban freeway with the introduction of paved medians and concrete and metal barriers. Roadside garbage and redwood bark will become more visible to the traveling public when the medians are paved. This project will reduce the parkway like setting along this section of Highway 101 and create a more urban aesthetic feel in the corridor.

Avoidance, Minimization and/or Mitigation Measures

The steel rail elements on all locations of double thrie beam barrier will be lightly sandblasted to remove the initial shine. Views of the Fernbridge Bridge will be preserved by using a depressed median in that area.

2.1.3 Cultural Resources

The project area is entirely within the graded highway, and no cultural resources are reported within the project area. This project is determined to be a screened undertaking with no potential to affect historic properties. The undertaking is exempt from further review or consultation under Section 106 of the *National Historic Preservation Act*.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 CFR 650 Subpart A. In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The 100-year floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the 100-year floodplain."

Affected Environment

Sections of Location 1 lie within the Federal Emergency Management Agency (FEMA) 100-yr and 500-yr floodplains of the Eel River and Strongs Creek.

Avoidance, Minimization and/or Mitigation Measures

Double thrie beam barrier will be installed instead of solid concrete barrier near Strongs Creek and from Salmon Creek to the north end of the project to minimize encroachment of the floodplain. The eleven-inch opening at the base of double thrie beam is considered sufficient to pass floodwaters.

2.2.2 Water Quality and Stormwater Runoff

This project will disturb more than 1.0 acre of land, which requires that Storm Water Pollution Prevention Plan (SWPPP) guidelines be followed. A Storm Water Data Report was completed to determine the appropriate Best Management Practices (BMP's). Temporary erosion control BMP's will be incorporated into the project to stabilize the soil and reduce erosion and stormwater pollution. Temporary construction BMP's may include mulches or blankets, straw bale barriers, fiber rolls, or jute fiber netting.

2.2.3 Hazardous Waste Materials

Regulatory Setting

The two hazardous waste issues for this project are Aerially Deposited Lead (ADL) and lead in the yellow traffic-stripe paint.

The California Code of Regulations (CCR), Title 8, requires addressing ADL. Until the EPA banned the use of lead as an additive in 1986, gasoline and emissions from automobiles contained lead for more than 60 years. The concentration of lead in soils decreases with distance from the road and increases with traffic volume, particularly along heavily traveled highways. Although gasoline no longer contains lead, accumulations persist adjacent to older roadways. The soil materials that are impacted with lead along highways are not considered to be "waste" unless they are removed and require disposal.

For a waste containing metals, such as lead, the waste is classified as a California Hazardous Waste when: 1) the total metal content exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the soluble metal content exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste has the potential of exceeding the STLC when the waste's total metal content is greater than or equal to ten times the respective STLC value, since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective

STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as Federal hazardous, when the soluble metal content exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP).

Affected Environment

Numerous soil samples were collected from the median and tested for ADL. Those analytical test results were then subjected to statistical analysis. Based on the calculated total lead upper one-sided 90% and 95% confidence limits (UCL), where construction excavations are less than 1 foot in depth, the excavated soil would likely require disposal as a California-hazardous waste since the predicted soluble (WET) lead concentrations are greater than the lead STLC of 5.0 mg/l. If the top 6 inches of soil is removed and disposed of as a hazardous waste, the underlying soil between 6 and 12 inches may be disposed of as a non-hazardous waste or may be reused as a non-hazardous fill since the predicted soluble (WET) lead concentrations are less than the STLC value for lead of 5.0 mg/l. As an alternative, excavated soil may be stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

It was also found that the traffic-stripe paint would be considered a hazardous waste if removed by a separate operation.

Impacts

During construction the top layer of grass and organic material will be excavated from the median. This material will likely be disposed of as hazardous waste. Any traffic-stripe paint that is removed separately, such as before grinding for rumble strips, will also be considered hazardous waste.

Avoidance, Minimization and/or Mitigation Measures

Excavation will be kept to a minimum to reduce the amount of lead contaminated soil that requires disposal. All hazardous waste will be disposed of in the appropriate facility. A project-specific lead compliance plan will be implemented pursuant to CCR, Title 8, Section 1532.1, to prevent or minimize worker exposure to lead contaminated materials.

2.3 Biological Environment

2.3.1 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is regulated by the U.S. Army Corps of Engineers (ACOE) with oversight by the Environmental Protection Agency (EPA).

At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game and the Regional Water Quality Control Boards (RWQCB). In certain circumstances the Coastal Commission may be involved.

Affected Environment

Wetland delineations revealed a three-foot-wide strip of jurisdictional wetlands present in the median at the north end of the project in the Beatrice Flats area from PM 67.90 to PM 69.95. Hydrophilic plant species within the wetlands included pennyroyal (*Mentha pulegium*) and small-fruit bulrush (*Scirpus microcarpus*).

Impacts

Paving the median strip will result in the permanent loss of a three-foot-wide swath of wetlands that spans 2.05 miles. This represents a total wetland loss of 0.82 acres. The quality of habitat offered by these wetlands is extremely low given its location within the median of a busy highway and its relatively small width.

Avoidance, Minimization and/or Mitigation Measures

Wetlands in the Beatrice Flats area cannot be avoided due to the need to pave the entire median strip for safety reasons and to fulfill the project's purpose and need.

The loss of wetlands will be mitigated at a 1:1 ratio by purchasing 0.82 acres from the Elk River Mitigation Bank, which is administered by the California Department of Fish and Game. The wetlands created by this bank are a much higher quality than those lost during project activities because they are contiguous with other wetlands,

they are protected in perpetuity, and they are not associated with a highway median. Therefore, no net loss of wetlands will occur.

2.3.2 Plant Species

Outside of the wetland area, the remainder of the median strip is dominated by upland plant species such as: yellow glandweed (*Parentucellia viscose)*, birdfoot trefoil (*Lotus corniculatus*), dandelion (*Taraxicum officinale*), fesque (*Festuca sp*.), Dallas grass (*Pasapalum dilatatum*), and other ruderal grass species. Although these plants will be affected by the paving of the median, none of these species has special protection status.

2.3.3 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NOAA Fisheries) and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act.

Affected Environment

Black-tailed deer migrate from the forested ridge-tops on the east side of the highway to the wetlands of the Hookton Slough National Wildlife Refuge and the Table Bluff area to the west of the highway. Large animals also cross the southern extent of the project limits to access the Eel River and the farmlands of the Eel River Delta. Small mammals such as raccoons, gray foxes, and opossums, are known to cross Highway 101 within the project limits. Reptiles and amphibians are also abundant in the project vicinity and are known to cross highways to travel between suitable habitat areas.

Impacts

The addition of median barrier could make it more difficult for animals to cross this section of highway.

Avoidance, Minimization and/or Mitigation Measures

Caltrans worked with CDFG to reduce these impacts. Using sections of thrie beam, which is structurally similar to metal beam guardrail, increases sight distance along

highways for animals attempting to cross the highway. Due to increased sight distance, thrie beam generally has a less negative influence on animal migration patterns and animal/vehicle collisions than concrete barriers. Thrie beam is not a barrier for amphibians, reptiles, or small mammals such as foxes, raccoons, and opossum because they are able to walk under the rail elements.

In addition to installing thrie beam, enlarged scuppers (six-inch-radius, half-circle openings) will be installed in the concrete barrier every 100 feet to facilitate highway crossing for smaller mammals, reptiles, and amphibians.

2.3.4 Threatened and Endangered Species

Caltrans biologists examined the potential to affect sensitive species in the project area and determined there would be no impact to threatened or endangered species for the following reasons:

Potential habitat for two endangered plant species, western lily and Pacific gilia, occurs in the project area, but neither species was encountered during blooming period surveys.

Although Salmon Creek and Strongs Creek provide habitat for endangered fish species such as coho and Chinook salmon, impacts to fish will be avoided because neither creek is slated for in-stream or bank work.

A breeding colony of tri-colored blackbird, which is a 'State Species of Special Concern' exists near the proposed project, however no suitable habitat for this species is present in the roadway median.

2.4 Cumulative Impacts

The Alton Interchange project will construct median barrier that connects to this proposed median barrier project. After the two projects are completed (estimated year 2009), there will be 16.7 miles of continuous median barrier on State Route 101 from the Van Duzen River Bridge to the King Salmon Avenue undercrossing.

Highways can have a detrimental effect on the survival, movement, and species diversity of wildlife. Median barriers inhibit the dispersal of animals to access other populations for breeding. This fragmentation of habitat reduces genetic diversity

within wildlife populations. Reduction of genetic diversity increases the risk of local extinctions.

Prior to the installation of the median barrier near the town of Fortuna, Caltrans did not collect data on how many animals were killed by vehicles, so it is unknown whether this barrier is causing an increase in animal fatalities. Now Caltrans and the CDFG are collecting data on the number of road-kills both in the Fortuna area and this project area to determine what impact median barrier may have on animal populations.

In addition, Caltrans is looking into ways to reduce these potential impacts. Using sections of thrie beam increases sight distance along highways for animals attempting to cross the highway. Due to increased sight distance, thrie beam generally has a less negative influence on animal migration patterns and animal/vehicle collisions than concrete barriers. Thrie beam is not a barrier for amphibians, reptiles, or small mammals such as foxes, raccoons, and opossum because they are able to walk under the rail elements. Deer, which are the primary concern in this area, are large enough that they can jump over most barriers, however young deer should benefit from the thrie beam which is four inches lower than concrete barrier.

Caltrans is also installing enlarged scuppers – half circle openings – in the concrete barrier every 100 feet to facilitate highway crossing for smaller mammals, reptiles, and amphibians.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings and interagency coordination meetings.

Caltrans staff worked closely with the CA Department of Fish and Game (CDFG) to determine a strategy to allow wildlife to continue to cross the highway after the addition of median barrier. The CDFG was consulted for determining the best locations for the double thrie beam barrier. In April, 2005 the CDFG approved Caltrans purchase of credits from Elk River Mitigation Bank to mitigate for wetland impacts.

The Army Corps of Engineers (ACOE) was consulted for their jurisdictional determination of wetlands.

Caltrans will soon be holding a public workshop to deliver information on the proposed project.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans staff:

Gwyn Baker, Associate Environmental Planner. Five years experience writing environmental documents. Contribution: Prepared Initial Study

Jeannie Baker, Senior Environmental Planner. Twenty years experience in preparing and supervising the preparation of environmental documents. Contribution: Environmental Branch Chief

Sue Bauer, Associate Environmental Planner. Six years experience working with CEQA and NEPA. Contribution: performed background analysis for project

Barry Douglas, PQS-PI . Twenty-eight years experience in Prehistoric Archaeology Contribution: Cultural Resources Compliance

Sherry Douglas, Associate Biologist. Eight years experience as a biologist Contribution: Natural Environment Study Report

Jim Hibbert, Associate Landscape Architect. Five years experience in writing visual impacts assessments. Contribution: Visual Impact Analysis

Mark Sobota, P.E., M.B.A. Fifteen years experience in Caltrans Office of Design Contribution: Project Report

Dennis McBride, P.E.. Ten years experience as Design Branch Chief. Contribution: Approval of project design

Steve Werner, Engineering Geologist, District Hazardous Waste Coordinator. Twenty years experience in hazardous waste and engineering geology studies. Contribution: Preliminary Site Investigation

Appendix A CEQA Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include "potentially significant impact," "less than significant impact with mitigation," "less than significant impact," and "no impact."

The California Environmental Quality Act requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A mark in the "no impact" column of the checklist reflects this determination. Any needed explanation of that determination is provided in Chapter 2.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	X	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	X	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentration?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
C) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	X	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	X	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X
COMMUNITY RESOURCES - Would the project:				
a) Cause disruption of orderly planned development?	☐	☐	☐	X
b) Be inconsistent with a Coastal Zone Management Plan?	☐	X	☐	☐
c) Affect lifestyles or neighborhood character or stability?	☐	☐	☐	X
d) Physically divide an established community?	☐	☐	☐	X
e) Affect minority, low-income, elderly, disabled, transit-dependent, or other specific interest group?	☐	☐	☐	X
f) Affect employment, industry, or commerce, or require the displacement of businesses or farms?	☐	☐	☐	X
g) Affect property values or the local tax base?	☐	☐	☐	X
h) Affect any community facilities (including medical, educational, scientific, or religious institutions, ceremonial sites or sacred shrines?	☐	☐	☐	X
i) Result in alterations to waterborne, rail, or air traffic?	☐	☐	☐	X
j) Support large commercial or residential development?	☐	☐	☐	X
k) Affect wild or scenic rivers or natural landmarks?	☐	☐	☐	X
l) Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours, and temporary access, etc.)?	☐	☐	☐	X
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	X
ii) Strong seismic ground shaking?	☐	☐	☐	X
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	X
iv) Landslides?	☐	☐	☐	X
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	☐	☐	☐	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	X
b) Create a significant hazard to the public or the environment through reasonably forseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
LAND USE AND PLANNING - Would the project:				
a) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	X
MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	X
NOISE - Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
POPULATION AND HOUSING - Would the project:				

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X

PUBLIC SERVICES -

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X

RECREATION -

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	X

TRANSPORTATION/TRAFFIC - Would the project:

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Result in inadequate parking capacity?	☐	☐	☐	X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	X
UTILITY AND SERVICE SYSTEMS - Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

MANDATORY FINDINGS OF SIGNIFICANCE -

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	X

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

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Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

WILL KEMPTON
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Wildlife

- Ten locations of double thrie beam barrier will be integrated into the concrete median barrier to facilitate wildlife crossing.
- "Wildlife Xing" signs will be placed in six locations throughout the project to alert motorists of the possibility that wildlife may attempt to cross the highway in front of them. This effort will potentially reduce the number of vehicle/wildlife collisions.
- The concrete median barrier will include scuppers (six-inch-radius, half-circle openings) to facilitate highway crossing of smaller mammals, reptiles, and amphibians.

Wetlands

- Caltrans will purchase 0.82 credits from the Elk River Mitigation Bank administered by the CA Department of Fish and Game.

Visual

- A depressed median is being used near the Fernbridge Bridge to help preserve the viewshed. The thrie beam barrier will be lightly sandblasted to soften the visual impact by removing the initial shine.

Floodplain

- Double thrie beam barrier will be installed instead of solid concrete barrier near Strongs Creek and from Salmon Creek to the north end of the project to minimize encroachment of the floodplain.

Appendix D List of Technical Studies

Natural Environment Study and Wetland Delineation
Floodplain Analysis
Preliminary Drainage Report
Storm Water Data Report
Screened Memo in Compliance with the Section 106 Programmatic Agreement

Hazardous Waste Reports

- Initial Site Assessment
- Aerially Deposited Lead & Lead/Chromium-based Paint Site Investigation Report
- Preliminary Site Investigation

Visual Impact Analysis